

3.3 BIOLOGY

This section summarizes the existing biological resources within the project study area. The information is based on the *SR-22/West Orange County Connection Natural Environment Study (NES)* and the *Reduced Build Alternative NES Addendum* (December 2000), the *NES Reduced Build Alternative (Revised) Addendum* (December 2002), and the August 2001 DEIR/EIS. For a more detailed analysis of biological resources, see the technical reports.

3.3.1 VEGETATION

The existing SR-22/West Orange County Connection (SR-22/WOCC) corridor is vegetated primarily with exotic (non-native) species used in southern California landscaping and freeway rights-of-way. Plant species observed in the study area are listed in Table 3.3-1.

**Table 3.3-1
Plant Species Observed in the Study Area**

Common Name	Scientific Name
acacia	<i>Acacia</i> sp.
California pepper	<i>Schinus molle</i>
California sycamore tree	<i>Platanus racemosa</i>
castor bean*	<i>Ricinus communis</i>
Chinese elm	<i>Ulmus parvifolia</i>
coast live oak tree	<i>Quercus agrifolia</i>
eucalyptus	<i>Eucalyptus</i> sp.
fan palm	<i>Washingtonia</i> sp.
fennel ^A	<i>Foeniculum vulgare</i>
fountain grass* ^A	<i>Pennisetum setaceum</i>
giant reed* ^A	<i>Arundo donax</i>
horseweed	<i>Conyza canadensis</i>
Hottentot fig ^A	<i>Carpobrotus edulis</i>
ice plant	<i>Mesembryanthemum crystallinum</i>
jacaranda	<i>Jacaranda mimosifolia</i>
mulefat	<i>Baccharis salicifolia</i>
mustard*	<i>Hirshfeldia incana</i>
oleander	<i>Nerium oleander</i>
pampas grass ^A	<i>Cortaderia selloana</i>
pine	<i>Pinus</i> sp.
red brome ^A	<i>Bromus madritensis</i> ssp. <i>rubens</i>
tree tobacco	<i>Nicotiana glauca</i>
wild oat	<i>Avena</i> sp.
willows	<i>Salix</i> sp.

* On California noxious weeds list (CDFA, 2000); ^A from the California Exotic Pest Plant Council list of Invasive Wildland Pest Plants.

Most drainages in the study area are entirely lined by concrete channels. The SR-22 overcrossing at the Santa Ana River supports a sand bottom, with only ruderal and exotic vegetation. Vegetation at the SR-55 crossing over Santiago Creek, which has rocky/gravel channel bed, includes mulefat, a native species, although invasive ruderal species, including giant reed, castor bean, fennel, eucalyptus, tree tobacco and wild oat, dominate the area. The quality of riparian habitat in this area is low.

The SR-22 overcrossing at the Santiago Creek primarily contains exotic vegetation. Mature coast live oak trees occur north of the Santiago Creek/SR-22 overcrossing, in addition to several mature California sycamore trees and willows, all of which have the potential to be impacted due to ramp relocation activities at Santiago Creek. Although California sycamores and willows are riparian species and

sycamores are associated with riparian woodland habitat, other vegetation is sparse, and the very low-quality riparian habitat in this area would not be characterized as riparian woodland. The associated vegetation includes several non-native species including fennel, giant reed, fan palm, fountain grass, common horsetail, and eucalyptus.

The City of Orange has an Oak Tree Preservation Ordinance to regulate large-scale tree removal from undeveloped property. The County of Orange has no similar tree protection or preservation ordinance and no other similar local ordinances exist in other local jurisdictions within the project area.

3.3.2 WILDLIFE

The sparse nature of riparian vegetation in the study area limits its potential to support a diverse array of wildlife species (Table 3.3-2, Animal Species that May or Are Known to Occur in the Study Area). Native amphibians and reptiles were not observed during surveys. Birds and raptors observed during surveys included species such as the mourning dove, spotted dove, red-shouldered hawk, red-tailed hawk and great horned owl. Native and non-native mammal species were expected to occur in the study area; however, none were observed during field surveys. Many of the mammals may be nocturnal. White-throated swifts reportedly nested in recent years at the SR-55 bridge over Santiago Creek (Newkirk, 1999). The December 2000 Natural Environmental Study identified maternity colonies of big brown bats and Mexican free-tailed bats at the SR-55 and SR-22 bridge (Bridges 55-0381, 55-0381OL, 55-0381K, 55-0381S, 55-0033) crossings over Santiago Creek. These species were not observed during summer 2002 field surveys, but the nocturnal and secretive nature of these species indicates they may be present. Also, these migratory species are not present throughout the year or every year at historic nesting sites.

**Table 3.3-2
ANIMAL SPECIES THAT MAY OR ARE KNOWN TO OCCUR IN THE STUDY AREA**

Common Name	Scientific Name	Comments
Amphibians and Reptiles		
African clawed frog	<i>Xenopus laevis</i>	May be present in the study area
bullfrog	<i>Rana catesbiana</i>	May be present in the study area
common kingsnake	<i>Lampropeltis getulus</i>	May be present in the study area
gopher snake	<i>Pituophis melanoleucus</i>	May be present in the study area
Pacific treefrog	<i>Pseudacris regilla</i>	May be present in the study area
side-blotched lizard	<i>Uta stansburiana</i>	May be present in the study area
western fence lizard	<i>Sceloporus occidentalis</i>	May be present in the study area
western toad	<i>Bufo boreas</i>	May be present in the study area
Birds		
American kestrel	<i>Falco sparverius</i>	May make use of the study area
Anna's hummingbird	<i>Calypte anna</i>	Observed during surveys
black-necked stilt	<i>Himantopus mexicanus</i>	Observed during surveys at the Los Alamitos Channel
black phoebe	<i>Sayornis nigricans</i>	Observed during surveys at the Los Alamitos Channel
European starling	<i>Sturnus vulgaris</i>	Observed during surveys
great blue heron	<i>Ardea herodias</i>	Observed during surveys at the Los Alamitos Channel
great egret	<i>Casmerodius albus</i>	Observed during surveys at the Los Alamitos Channel
great horned owl	<i>Bubo virginianus</i>	May make use of the study area
house finch	<i>Carpodacus mexicanus</i>	Observed during surveys
house sparrow	<i>Passer domesticus</i>	Observed during surveys
killdeer	<i>Charadrius vociferus</i>	Observed during surveys at the Los Alamitos Channel
mourning dove	<i>Zenaida macroura</i>	Observed during surveys
northern mockingbird	<i>Mimus polyglottos</i>	Observed during surveys
red-shouldered hawk	<i>Buteo lineatus</i>	May make use of the study area
red-tailed hawk	<i>Buteo jamaicensis</i>	May make use of the study area
snowy egret	<i>Egretta thula</i>	Observed during surveys at the Los Alamitos Channel
spotted dove	<i>Streptopelia chinensis</i>	Observed during surveys
western scrub-jay	<i>Aphelocoma californica</i>	Observed during surveys
white-crowned sparrow	<i>Zonotrichia leucophrys</i>	May roost and feed in the study area during winter

Birds continued		
white-throated swift	<i>Aeronautes saxatalis</i>	Nested in recent years at the SR-55 bridge over Santiago Creek
yellow-rumped warbler	<i>Dendroica coronata</i>	May roost and feed in the study area during winter
Mammals		
big brown bat	<i>Eptesicus fuscus</i>	Nest under the bridge at the SR-55 crossing over Santiago Creek
coyote	<i>Canis latrans</i>	Native, expected to occur in study area
domestic and feral cat	<i>Felis domesticus</i>	Non-native, expected to occur in study area
Ca. Ground Squirrel	<i>Citellus beecheyi</i>	Native, expected to occur in study area
house mouse	<i>Mus musculus</i>	Non-native, expected to occur in study area
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>	Nest under the bridge at the SR-55 crossing over Santiago Creek
Norway rat	<i>Rattus norvegicus</i>	Non-native, expected to occur in study area
raccoon	<i>Procyon lotor</i>	Native, expected to occur in study area
red fox	<i>Vulpes vulpes</i>	Non-native, expected to occur in study area
striped skunk	<i>Mephitis mephitis</i>	Native, expected to occur in study area
Virginia opossum	<i>Didelphis virginiana</i>	Non-native, expected to occur in study area

WILDLIFE DISPERSION

The project study area crosses several potential wildlife corridors in the form of drainages. Most of these drainages are channelized and generally support little native vegetation. Those that are not channelized in the vicinity of the crossings are channelized either just upstream or downstream, decreasing their ability to act as potential wildlife corridors. However, the Los Alamitos Channel/San Gabriel River, located adjacent to the I-605 portion of the project, is very wide and vegetated, and represents an important potential wildlife corridor.

3.3.3 SPECIES OF CONCERN

The study area supports some native plant species. Even so, the study area does not support native plant communities and exhibits a high level of human disturbance. No sensitive plant or wildlife species are expected to occur in the study area. Sensitive species may occur in the project area as occasional migrants. Information on the species that were reviewed is summarized in Table 3.3-3.

3.3.4 RESOURCE AGENCY COORDINATION

The Department and OCTA have been working with the United States Army Corps of Engineers (USACOE), regarding Section 404 of the Clean Water Act permitting process, the California Department of Fish and Game (CDFG) regarding the need for Lake/Streambed Alteration Agreements (1600), and the U.S. Fish and Wildlife Service (USFWS) regarding the potential sensitive species list. The sensitive species provided in this list have been included in Table 3.3-3 with the USFWS species list, received by the Department on March 16, 2001. Both lists are included in the appendices of this document. The NES determined that there was low quality habitat provided for these sensitive species within the project area. As a result of surveys conducted, these sensitive species would not have the potential to occur within the project area.

The project proponent is required to negotiate with the CDFG, USFWS, USACOE, and California Regional Water Quality Control Board (CRWQCB) prior to permit application to discuss current project features and proposed mitigation measures. The Department has recommended general mitigation measures for both the (Enhanced) Reduced Build Alternative and the Full Build Alternative and has notified the CDFG and USACOE of these proposed measures.

Research was conducted regarding the County of Orange Nature Reserve boundaries to determine whether any of the study area (area of direct effect) or area of indirect effect is located within the boundaries of the Nature Reserve Natural Communities Conservation Plan (NCCP) area (Orange County, 1996). No areas of direct or indirect effect are located in the vicinity of the Nature Reserve of Orange County.

Further coordination with resource agencies will be conducted prior to permit application to discuss current project features and proposed mitigation measures.

**Table 3.3-3
SENSITIVE SPECIES REVIEWED FOR POTENTIAL OCCURRENCE
IN THE REGION**

Species	Protection	Preferred Habitat	Potential for Occurrence in Project Area
Plants			
Braunton's milk-vetch <i>Astragalus brauntoni</i>	USFWS-FE CNPS-1B	chaparral, coastal sage scrub	None – No habitat
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	USFWS-FT CDFG-CE CNPS-1B	oak woodland, coastal sage scrub	None – No habitat
Plummer's mariposa lily <i>Calochortus plummerae</i>	CNPS-1B	chaparral, oak woodland, coastal sage scrub	None – No habitat
Santa Monica Mountains dudleya <i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	USFWS-FT CDFG-CE CNPS-1B	talus slopes, north-facing cliffs in chaparral	None – No habitat
Many-stemmed dudleya <i>Dudleya multicaulis</i>	CNPS-1B	chaparral, coastal sage scrub	None – No habitat
Palmer's grapplinghook <i>Harpagonella palmeri</i>	CNPS-4	chaparral, coastal sage scrub	None – No habitat
Gambel's water cress <i>Rorippa gambellii</i>	USFWS-FE CDFG-CT CNPS-1B	freshwater or brackish marshes and swamps, lake margins, along slow-flowing streams	None – No habitat
Animals			
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	USFWS-FE	coastal sage scrub, grassland	None – No habitat
Arroyo southwestern toad <i>Bufo californicus</i>	USFWS-FE CDFG-CSC	oak woodland, riparian habitats	None – No habitat
California red-legged frog <i>Rana aurora draytoni</i>	USFWS-FT CDFG-CSC	riparian habitats associated with deep, still or slow-moving water	None – No habitat
Western spadefoot <i>Scaphiopus hammondi</i>	CDFG-CSC	riparian habitats and ponds	None – No habitat
California legless lizard <i>Anniella pulchra</i>	CDFG-CSC	chaparral, oak woodland, riparian (sandy soils)	None – No habitat

Table 3.3-3 (continued)

Species	Protection	Preferred Habitat	Potential for Occurrence In Project Area
Western pond turtle <i>Clemmys marmorata</i>	CDFG-CSC	reservoirs, riparian habitats	Very Low (may wash down during storms)
White-tailed kite <i>Elanus leucurus</i>	CDFG-CSC/FP	ruderal (foraging), oak woodland	Low (foraging) Breeding?
Cooper's hawk <i>Accipiter cooperii</i>	CDFG-CSC	woodlands	Moderate (foraging) Low (breeding)
Sharp-shinned hawk <i>Accipiter striatus</i>	CDFG-CSC	woodlands	Moderate (foraging) None (breeding)
Merlin <i>Falco columbarius</i>	CDFG-CSC	open woodlands, grassland edges	Low (foraging) None (breeding)
Peregrine falcon <i>Falco peregrinus</i>	USFWS-Formerly FE CDFG-CE/FP	many habitats (foraging)	Low (foraging) Very low (breeding)
Burrowing owl <i>Speotyto cunicularia</i>	CDFG-CSC	ruderal (with friable soils or existing burrows)	None – No habitat
Long-eared Owl <i>Asio otus</i>	CDFG-CSC	riparian woodlands	None – No habitat
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	USFWS-FE CDFG-CE**	riparian woodlands	None (except as migrant)
Coastal California gnatcatcher <i>Poliophtila californica californica</i>	USFWS-FT CDFG-CSC	coastal sage scrub	None – No habitat
Coastal cactus wren <i>Campylorhynchus brunneicapillus couesi</i>	CDFG-CSC	coastal sage scrub	None – No habitat
Loggerhead shrike <i>Lanius ludovicianus</i>	CDFG-CSC	ruderal habitats, coastal sage scrub	Low (breeding)
Least Bell's vireo <i>Vireo belli pusillus</i>	USFWS-FE CDFG-CE	riparian woodlands	None – No habitat
California yellow warbler <i>Dendroica petechia</i>	CDFG-CSC	riparian woodlands	None (except as migrant)
Yellow-breasted chat <i>Icteria virens</i>	CDFG-CSC	riparian woodlands	None – No habitat
Ashy rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Mountain plover <i>Charadrius montanus</i>	USFWS-FPT CDFG-CSC	sparsely vegetated fields and grasslands	None – No habitat
Pallid bat <i>Antrozous pallidus</i>	CDFG-CSC	cliffs, rock outcrops, bridges and other human-made structures	Low – roosts under bridges
Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i>	CDFG-CSC	caves, buildings, other human-made structures including bridges	Low – roosts under bridges
Spotted bat <i>Euderma maculatum</i>	CDFG-CSC	cliff crevices	None – No habitat

Table 3.3-3 (continued)

Coast horned lizard <i>Phrynosoma coronatum</i>	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Two-striped garter snake <i>Thamnophis hammondi</i>	CDFG-CSC	riparian habitats	Very low (requires substantial permanent sources of water)
California mastiff bat <i>Eumops perotis californicus</i>	CDFG-CSC	rock areas, crevices in cliffs and trees	None – No habitat
San Diego black-tailed jackrabbit <i>Lepus californicus benettii</i>	CDFG-CSC	open chaparral, coastal sage scrub	None – No habitat
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	CDFG-CSC	chaparral, coastal sage scrub	None – No habitat
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	CDFG-CSC	coastal sage scrub	None – No habitat
Badger <i>Taxidea taxus</i>	CDFG-CSC	oak woodland, coastal sage scrub	None – No habitat
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	USFWS-FE CDFG-CSC	fine-grain, sandy substrates in immediate vicinity of Pacific Ocean	None – No habitat
Santa Ana sucker <i>Catostomus santaanae</i>	USFWS-FT CDFG-CSC	permanent flowing streams with areas of coarse gravel	None – No habitat
Southern steelhead <i>Oncorhynchus mykiss</i>	USFWS-FE CDFG-CSC	fresh water, ocean	None – No habitat
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	USFWS-FE	vernal pools	None – No habitat
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	USFWS-FE	vernal pools	None – No habitat

Note: **The entire species, not just the subspecies, is listed by the State of California (<http://www.dfg.ca.gov/whdab/html/lists.html>)
 * Modified December 2002 based on Rainey, W.E. & E. D. Pierson, Bats and Bridges in California. S.E. (1994). Night Roosting Ecology of Pallid Bats (*Antrozous pallidus*) in Oregon, American Midland Naturalist, vol. 132: 219-226.

Sources:

- California Natural Diversity Database, CDFG, Natural Heritage Division 2002 for U.S. Geological Survey quadrangle names: Los Alamitos, Anaheim, Orange and Tustin.
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2001), California Native Plant Society Special Publication No. 1 (Fifth Edition), Sacramento, CA.
- State and Federally Listed Endangered, Threatened and Rare Plants of California, CDFG, Natural Heritage Division, April 2002.
- State and Federally Listed Endangered and Threatened Animals of California, CDFG, Natural Heritage Division, April 2002.
- United States Fish and Wildlife Service, Sensitive Species List, March 16, 2001

USFWS (U.S. Fish and Wildlife Service)

FE Federally endangered
 FT Federally threatened
 FPT Proposed for federal threatened species listing

CDFG (California Department of Fish & Game)

CE California endangered (protected from hunting)
 CT California threatened
 FP California fully protected
 CSC California Species of Special Concern

CNPS (California Native Plant Society)

List 1B plants that are considered rare, threatened or endangered in California and elsewhere
 List 2 plants that are considered rare, threatened or endangered in California but more common elsewhere
 List 4 plants of limited distribution-Watch list